

REMARKS

The status of the claims is as follows. Claims 1-74 were originally filed and were subject to restriction and to election of species. As required by the Restriction Requirement, Applicant elected the invention of Group I, Claims 1-32 and 49-62 and further elected species A, which the Office Action has indicated is readable apparently on only Claims 1-6. Claims 7-74 were withdrawn from consideration in the Office Action. Claims 33-48 and 63-74 have been canceled herein and Claims 2 and 3 have been amended herein.

Restriction Requirement

In Applicant's response to the restriction requirement, Applicant made the following observation:

"In making the Restriction Requirement the Examiner determined that the inventions of Groups I-IV are distinct each from the other. According to M.P.E.P. 802.01 the term "distinct" means that two or more subjects as disclosed are related, for example, as combination and part (subcombination) thereof, process and apparatus for its practice, process and product made, etc., but are capable of separate manufacture, use, or sale as claimed, AND ARE PATENTABLE (novel and unobvious) OVER EACH OTHER (emphasis in original). Accordingly, the Examiner is acknowledging at least implicitly that the inventions of the various groups are separately patentable over one other. If this were not the case, then the restriction requirement would not be proper."

The present Office Action indicates that the above was not found persuasive because the inventions have acquired a separate status in the art as shown by their different classification, have acquired a separate status in the art because of their recognized divergent subject matter, and the search required for each group of claims requires a different field of search, therefore causing a serious burden on the Examiner.

It is not clear to Applicant whether the above comments in the Office Action mean that the inventions of the various groups are or are not separately patentable over one another. Applicant respectfully requests clarification as to whether the various groups are patentable over each other as set forth in the MPEP.

With respect to the election of species, the requirement for the election indicated that the species were patentably distinct and, thus, the various species, by definition, have been determined in the previous Office Action to be patentable over each other.

The Amendment

Claim 2 was amended to correct a typographical error.

Claim 3 was amended to delete the parenthetical expression, which was redundant.

Rejection under 35 U.S.C. §103

Claims 1-6 were rejected under paragraph (a) of the above code section as being unpatentable over Sato, *et al.* (U.S. Patent No. 6,072,924) (Sato) in view of Miyazawa, *et al.* (U.S. Patent No. 5,534,187) (Miyazawa).

In order to maintain a rejection under 35 U.S.C. §103 the Examiner must first establish a *prima facie* case of obviousness. *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988); *In re Piasecki*, 745 F.2d 1468, 223 U.S.P.Q. 785 (Fed. Cir. 1984). In determining the propriety of the Patent Office case for obviousness in the first instance, it is necessary to ascertain whether or not the reference teachings would appear to be sufficient for one of ordinary skill in the relevant art having the references before him to make the proposed substitution, combination or other modification. *In re Lintner*, 458 F.2d 1013, 173 U.S.P.Q. 560 (C.C.P.A. 1972). In determining the scope and content of the prior art, references must be considered in their entirety, as a whole, including portions that would lead away from the claimed invention. *In re Panduit*, 810 F.2d 1561, 1 U.S.P.Q.2d 1593 (Fed Cir. 1987). Hindsight reconstruction using the disclosure and claims in prosecution as a guide to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention is not permitted. *In re Fine, supra*.

The Office Action argues that Sato discloses a device comprising a solid component and a liquid composition interfaced therewith where the liquid composition has a refractive index that is substantially equal to that of the solid component. The Office Action recognizes, however, that Sato fails to disclose the liquid composition being selected from the groups set forth in Claim 1. The Office Action asserts that Miyazawa does disclose such liquid compositions. The Office Action concludes that it would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to have the liquid composition in Sato consist of the groups of compositions listed in Claim 1 as suggested by Miyazawa in order to have a liquid composition that has an ability to carry a charge in order to complete a desired function.

Applicant respectfully traverses the above rejection. First, Miyazawa discloses liquid crystalline compounds and liquid crystal compositions. The liquid compositions of Claim 1 are liquids. Therefore, even if, for the sake of argument, one were motivated to make the

substitution as suggested in the Office Action, one would still not be in possession of the claimed invention.

Furthermore, as has been held, there must be some suggestion, motivation or teaching in the prior art whereby the person of ordinary skill would have selected the components that the inventor selected and used to make the new device (*C.R. Bard, Inc. v M3 Systems, Inc.*, 157 F.3d 1340, 48 U.S.P.Q.2d 1225 (Fed. Cir. 1998), *cert. denied*, 67 U.S.L.W. 3715 (1999)).

The motivation set forth in the Office Action is that Miyazawa's liquid crystalline compounds have an ability to carry a charge in order to complete a desired function. However, Sato employs liquids that have a refractive index that is substantially equal to that of the optical waveguides. Sato's devices include a groove or a passage that is a pouring slit for pouring the index-matching liquid into the device. The passage is connected to a space that acts as a driving slit in which the index-matching liquid moves. Accordingly, not only does Miyazawa not provide the requisite motivation for making the proposed substitution as set forth in the Office Action, Sato actually teaches away from making such a substitution because Sato's liquids are poured into his device and the liquid crystalline compounds of Miyazawa would not appear to be pourable into or movable within Sato's device as required by Sato.

Another point to be mentioned is that in the Election of Species requirement of the prior Office Action, and as confirmed in the present Office Action, the species of Claims 1-6, i.e., a device with a groove in a substrate, was found to be patentably distinct from the species of Claims 49-62 (optical switch with a groove in a substrate and waveguides on a substrate) and the species of Claims 7-32 (optical system with a groove in a substrate and control means). Sato's disclosure is concerned with an optical switch with a groove in a substrate and waveguides on a substrate. Therefore, a determination has already been made that the species of Claims 1-6 is patentably distinct from the species disclosed in Sato. Thus, since Claims 1-6 are patentably distinct from Sato, even if, for the sake of argument, the skilled artisan were motivated to make the substitution as set forth in the Office Action, the skilled artisan would create a device over which Claims 1-6 would be patentably distinct as evidenced by the Election of Species.

Claim 2 is directed to a device according to Claim 1 wherein the liquid composition is a saturated cyclic compound comprising one or two rings, each having at least four atoms in the ring. As mentioned above, Miyazawa discloses liquid crystalline compounds and liquid crystal compositions. The liquid compositions of Claim 2 are liquids. Therefore, even if, for the sake of argument, one were motivated to make the substitution as suggested in the Office Action, one would still not be in possession of the claimed invention.

Furthermore, for reasons similar to those set forth above with regard to the rejection of Claim 1, there is no motivation to make the substitution as imagined in the Office Action. Sato employs liquids that have a refractive index that is substantially equal to that of his optical waveguides. Sato's devices include a groove that is a pouring slit for pouring the index-matching liquid into his device. The passage is connected to a space that acts as a driving slit in which the index-matching liquid moves. Accordingly, not only does Miyazawa not provide the requisite motivation for making the proposed substitution as set forth in the Office Action, Sato actually teaches away from making such a substitution because Sato's liquids are poured into his device and the liquid crystalline compounds of Miyazawa would not appear to be able to be poured into or moved within the device of Sato as required by the reference.

Claim 3 is directed to a device according to claim 1 wherein the liquid composition is benzene substituted with one or more electron-donating groups attached directly to the ring and one or more fluoro groups attached to the ring or to the electron-donating groups wherein the electron-donating groups are selected from the group consisting of alkyl, alkoxy, hydroxy, and amino. As mentioned above, Miyazawa discloses liquid crystalline compounds and liquid crystal compositions. The liquid compositions of Claim 3 are liquids. Therefore, even if, for the sake of argument, one were motivated to make the substitution as suggested in the Office Action, one would still not be in possession of the claimed invention.

Furthermore, for reasons similar to those set forth above with regard to the rejection of Claim 1, there is no motivation to make the substitution as imagined in the Office Action. Sato employs liquids that have a refractive index that is substantially equal to that of his optical waveguides. Sato's devices include a groove that is a pouring slit for pouring the index-matching liquid. The passage is connected to a space that acts as a driving slit in which the index-matching liquid moves. Accordingly, not only does Miyazawa not provide the requisite motivation for making the proposed substitution as set forth in the Office Action, Sato actually teaches away from making such a substitution because Sato's liquids are poured into his device and the liquid crystalline compounds of Miyazawa would not appear to be pourable into or movable within Sato's device.

Claim 4 is dependent from Claim 1. For the reasons given above with respect to Claim 1, the invention of Claim 4 is patentable over Sato in view of Miyazawa.

Claim 5 is dependent from Claim 1. For the reasons given above with respect to Claim 1, the invention of Claim 5 is patentable over Sato in view of Miyazawa.

Claim 6 is dependent from Claim 1. For the reasons given above with respect to Claim 1, the invention of Claim 6 is patentable over Sato in view of Miyazawa.

Conclusion

Claims 1-6 satisfy the requirements of 35 U.S.C. §103. Allowance of the above-identified patent application, it is submitted, is in order.

Respectfully submitted,

A handwritten signature in black ink, reading "Theodore J. Letereg". The signature is fluid and cursive, with the first name "Theodore" and last name "Letereg" clearly legible.

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